



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/097,787	06/15/1998	DEBORAH W. BROWN	112539	3328
83224	7590	07/06/2010	EXAMINER	
AT & T LEGAL DEPARTMENT - NDQ			HAN, QI	
ATTN: PATENT DOCKETING				
ONE AT & T WAY, ROOM 2A-207			ART UNIT	PAPER NUMBER
BEDMINSTER, NJ 07921			2626	
			MAIL DATE	DELIVERY MODE
			07/06/2010	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/097,787	BROWN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	QI HAN	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 07 May 2010.  
 2a) This action is **FINAL**.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-4, 12-15, 28-37, 39 and 41-43 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-4, 12-15, 28-37, 39 and 41-43 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____	5) <input type="checkbox"/> Notice of Informal Patent Application
	6) <input type="checkbox"/> Other: _____

**DETAILED ACTION**

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

***Continued Examination Under 37 CFR 1.114***

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

***Response to Amendment***

3. This communication is responsive to the applicant's amendment and RCE both filed on 05/07/2010. The applicant(s) amended claims 1-2, 12-13, 28, 30, 32-36, 39, 41 and 43, and canceled claims 38 and 40 (see the amendment: pages 2-8).

***Response to Arguments***

Applicant's arguments filed on 05/07/2010 with respect to the claim rejection under 35 USC 103, have been fully considered but are moot in view of the new ground(s) of rejection, since the amended claims introduce new issue and/or change the scope of the claims. Accordingly, the response to the applicant's arguments based on the newly amended claims (see

Remarks: pages 9-11) is directed to the claim rejection with necessitated new ground (see detail below).

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-4, 12-15, 28-37, 39 and 41-43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, it recites the limitation "the set of reference identifiers " in line 7 of the claim and "the reference identifier database" in line 19 of the claim. There are insufficient antecedent bases for these limitations in the claim.

Further, it is unclear that the limitation "data elements" in line 12 of the claim and in line 16 of the claim is referred to the same thing, or not, which causes an uncertainty for the claim with different interpretations of the limitation, so as being indefinite.

Regarding claims 2-4, 12-15, 28-37, 39 and 41-43, the rejection is based on the same reason describe for claim 1, because the claims include or inherit, at least partially, the same problematic limitations as claim 1.

In addition, regarding claim 42, the claimed limitation is substantially included in its parent claim 32. Appreciated amendment or cancellation is required.

***Claim Rejections - 35 USC § 103***

4. Claims 1-4, 12-15, 28-37, 39 and 41-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over GALLER et al (US 5,991,720) hereinafter referenced as GALLER in view of KANEVSKY et al. (IDS: US 5,897,616) hereinafter referenced KANEVSKY.

As per **claim 1**, as best understood in view of claim rejection under 35 USC 112 2<sup>nd</sup>, see above, GALLER discloses ‘speech recognition system employing multiple grammar networks’(title), comprising:

“generating a plurality of selection identifiers from first user speech input received from a user”, (col. 2, lines 45-48, ‘a plurality of recognition candidates (selection identifiers) are generated’, ‘N-best candidates’; col. 5, lines 64-67, ‘spelled name’, ‘input (user speech input) through a callers telephone handset 10’; also see col. 7, line 10 to col. 8, line 10);

“comparing the plurality of selection identifiers with [the] set of reference identifiers to determine which selection reference identifiers in the set of reference identifiers match at least one of the plurality of selection identifiers” (col. 2, lines 53-67, ‘matching (or comparing) the candidates (selection identifiers) to a dictionary (necessarily including entries and associated data, which read on claimed reference identifiers and data elements) of spelled names’ and using ‘different grammar network(s) (read on data elements)’; col. 7, line 33 to col. 8, line 10, ‘Viterbi decoder’, ‘HMM model’ and associated ‘probabilities’ which can also be read on data elements; matching ‘name dictionary’ for comparing the hypotheses’);

“deriving a dynamic grammar by storing in a dynamic grammar memory matching reference identifiers determined to match at least one of the plurality of selection identifiers, together with data elements that are associated with the matching reference identifiers” (col. 2,

lines 53-67, ‘matching...’ as stated above; col. 3, lines 22-42, ‘to build (derive) a dynamic grammar that is built from the N-best and M-best name candidates (data elements associated reference identifiers that match the selection identifier(s))’; Fig. 2 and col. 4, lines 60-66, ‘data store 230’ such as ‘random access memory’ stores ‘the continuous speech recognition dictionary (database) of all names (reference identifiers...with the associated telephone exchange numbers (also read on data element)’; col. 7, line 33 to col. 8, line 32, ‘building a dynamic grammar’ by using ‘DP alignment module’ and ‘the hypotheses’ that are based on matching HMM models and the associated ‘probabilities’ (also read on data elements), ‘memory size’ that implies storing the built (derived) dynamic grammar; col. 5, lines 37-44, ‘using an N-best strategy for real-time recognition the DSP-implemented speech recognizer selects the most probable candidate’ that implies more than one reference identifier matched and processing dynamic grammar; Fig. 5 and col. 8, lines 3-30, ‘passes the N-best and M-best hypotheses to module 42 for building a dynamic program’; also see col. 6, lines 10-17).

“retrieving from the reference identifier database the reference identifier associated with the data element determined to match the at least one [correlation] identifier” (col.3, lines 36-45, ‘extract (retrieve) the single most probable (determining the matched) name candidate (reference identifier)’ using ‘a suitable database (reference identifier database or dictionary)’ with the data element (such as probabilities stated above); also see Fig. 2 and col. 4, lines 59-67, ‘stores the continuous speech recognition dictionary (database) of all names (reference identifier)...with the associated telephone exchange numbers (also read on data element)’).

It is noted that GALLER discloses generating confirmed information ‘from second user input received from the user’ (col. 5, lines 35-45), but does not disclose that “generating at least

one **correlation identifier** from second user input received from the user; **comparing** the at least one **correlation identifier** with data elements stored in the dynamic grammar memory to determine which data element matches the at least one correlation identifier”; and “retrieving ...the reference identifier associated with the data element determined to match the at least one **correlation identifier**”. However, the features are well known in the art as evidenced by KANEVSKY who discloses ‘apparatus and methods for speaker verification/identification/classification employing non-acoustic and/or acoustic models and databases’ (title), comprising known ‘services/facilities’ to obtain ‘customer’s knowledge of information’ by ‘customer interfacing’ (col. 1, lines 33-40), using automatic speech recognition and speaker recognition techniques for controlling access of a speaker to the service or facility from among a multiplicity of speaker candidates (more than one reference identifier), including ‘receiving first spoken utterances (the user speech input)’, ‘generating a sub-list of speaker of candidates’, ‘activating databases’ containing ‘information respectively attributable to the speaker candidates’ in ‘the sub-list’ (data elements), ‘querying (presenting as prompt to) the speaker (the user) with at least one question that is relevant to the information in the databases of remaining speaker candidates’, ‘decoding the second spoken utterances (second user input received from the user)’, ‘verifying the accuracy of the decoded answer (generated correlation identifier) against (comparing with) the information (data element) contained (stored) in the accessed database (in memory)’, ‘performing (processing) the voice classification analysis on the voice characteristics from the answer (i.e. determining which data element matches a correlation identifier)’, (col. 3, line 12 to col. 4, line 25), ‘information (data element) contained in a user databases’ exhibiting ‘static features/information’ and/or ‘dynamic features/information’ for a

‘dialog’ so that the invention ‘can dynamically create (generate) new questions (dynamic grammar), understand the respective answers (correlation identifiers) and then use the information during next transaction’ (col. 10, lines 18-52) (also see col. 15, line 34 to col. 16, line 51). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine GALLER’s teachings of building dynamic grammar for selection identifiers (such as name candidates) from first user speech, with KANEVSKY’s teachings of providing more user information (data element) and the related identifiers (i.e. correlation modifiers) contained/stored in database/memory for access/verification/identification by processing (creating/performing) new questions/answers (as second user input) in spoken/voice dialog manner with speech/speaker recognition, as taught by KANEVSKY, for the purpose (motivation) of providing secure access to servers and/or facilities (KANEVSKY: abstract and col. 3, 13-14).

In addition, one of ordinary skill in the art would have recognized that (i) providing more identification information (such as correlation identifiers) associated with data elements stored in a database or memory and (ii) processing/generating recognized identifier with matched data element for second user input (as disclosed by KANEVSKY) would be in the same or similar ways for the first speech input (as disclosed by GALLER, see above), which would be obvious to combine for the skilled person in the art, because both providing second user input for further identification (such as processing questions/answers in spoken/voice dialog manner with speech/speaker recognition) by KANEVSKY and building/deriving a dynamic grammar with identifiers by recognizing speech input and comparing/matching reference identifier with related data element by GALLER are known methods and the functionalities of these methods in the

combined system would be the same as they were in the separate systems, and the result would be predictable.

As per **claim 2** (depending on claim 1), GALLER (in view of KANEVSKY) further discloses the step a) comprising:

- i) receiving an input identifier developed from the user speech input;(col. 5, line 64 to col. 6, line 8, input ‘Hanson’; also see above);and
- ii) deriving the plurality of selection identifiers in accordance with the input identifier (col. 7, lines 10-col. 8, line 10, ‘N-best and M-best hypotheses’).

As per **claim 3** (depending on claim 2), GALLER (in view of KANEVSKY) further discloses that the at least one selection identifier is derived from the input identifier in accordance with a Hidden Markov Model algorithm (Fig. 5 and col. 7, lines 10-col. 8, line 10, ‘Hidden Markov Models Recognition 26a, and 26b’).

As per **claim 4** (depending on claim 2), GALLER (in view of KANEVSKY) further discloses that wherein the plurality of selection identifiers is derived from the input identifier in accordance with one of a confusion matrix and a plurality of confusion sets (col. 9, lines 15-26, ‘confusable words’, ‘the tied letters are (m, n), (i, r), (p, t) and (b, d)’, ‘the “E-set” letters’, which reads on the claimed “**one of ...and a plurality of confusion sets**”; col. 5, lines 65-66, ‘to recognize continuously spelled names (input identifier) ...as input’).

As per **claims 28-29** (depending on claim 1), the rejection is based on the same reason described for claim 1, because it also reads on the limitation of claim 28-29.

As per **claims 12-15 and 30-31**, they recite an apparatus. The rejection is based on the same reason described for claims 1-4 and 28-29, because the claims recite the same or similar limitations as claims 12-15 and 30-31 respectively.

As per **claims 32-35 and 36-37**, they recite a computer-readable medium. The rejection is based on the same reason described for claims 1-4 and 28-29, because the claims recite the same or similar limitations as claims 32-35 and 36-37 respectively.

As per **claim 39** (depending on claim 1), the rejection is based on the same reason described for claim 1, because it also reads on the limitation of claim 39.

As per **claim 41** (depending on claim 12), the rejection is based on the same reason described for claim 39, because the claim recites the same or similar limitations as claim 39.

As per **claim 42** (depending on claim 32), the rejection is based on the same reason described for claim 1, because it also reads on the limitation of claim 42.

As per **claim 43** (depending on claim 12), the rejection is based on the same reason described for claim 39, because the claim recites the same or similar limitations as claim 39.

### ***Conclusion***

5. Please address mail to be delivered by the United States Postal Service (USPS) as follows:

Mail Stop \_\_\_\_\_  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**or faxed to:** 571-273-8300, (for formal communications intended for entry)

**Or:** 571-273-8300, (for informal or draft communications, and please label  
"PROPOSED" or "DRAFT")

If no Mail Stop is indicated below, the line beginning Mail Stop should be omitted from the address.

Effective January 14, 2005, except correspondence for Maintenance Fee payments, Deposit Account Replenishments (see 1.25(c)(4)), and Licensing and Review (see 37 CFR 5.1(c) and 5.2(c)), please address correspondence to be delivered by other delivery services (Federal Express (Fed Ex), UPS, DHL, Laser, Action, Purolater, etc.) as follows:

U.S. Patent and Trademark Office  
Customer Window, Mail Stop \_\_\_\_\_  
Randolph Building  
Alexandria , VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to QI HAN whose telephone number is (571)272-7604. The examiner can normally be reached on M-TH:9:00-19:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571)-272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

QH/qh  
July 1, 2010  
/Qi Han/  
Primary Examiner, Art Unit 2626